TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
SAIC	TASK NO. AMENDMENT		
	NNG06HX03C 06-613-01		

TASK TITLE: (NTE 80 characters; include project name) **Sounder Reseach Team and Data Impact Modeling Team**

TOVS Data and TOVS Pathfinder Path A Data Set

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Dr. Joel Susskind	2/1/2006	613	613.5	301-286-7210
BRANCH HEAD and/or DEPARTMENT HEAD Mr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres	DATE 2/1/2006	CODE 613		PHONE 301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Dr. Joel Susskind, Senior Scientist	DATE 2/1/2006	CODE 613		PHONE 301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement.	[X] NO	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] NO	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[x] NO	[ ] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)	
Onsite Performance:	[ ] NO	[X] YES -- SEE STATEMENT OF WORK	
Surveillance Plan Attached:	[X] NO	[ ] YES	
Performance Spec Attached:	[X] NO	[ ] YES	
Highlighted Contract Clauses:	*(to be completed by Contracting Officer)*		

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$560,452.47	$43,154.84	$603,607.31

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

SIGNATURE OF CONTRACTING OFFICER	DATE	TYPED NAME OF CONTRACTING OFFICER
Michele Rienecker	11/31/06	Michele Rock Contracting Officer

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE	DATE
Joel Susskind	1/31/06

GSFC FORM 703-1645 12/96 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-613-01	

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE:

APPLICABLE DOCUMENTS:
See Attached

GOVERNMENT FURNISHED FACILITIES:
The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):
J. Susskind, Building 22 Room 140

Task 06-613-01 SUPPORT FOR THE SOUNDER RESEARCH TEAM

1.1 Continued Analysis of TOVS Data to Produce and Analyze the TOVS Pathfinder Path A Data Set

1.1.1 Objective

The contractor shall continue to analyze NOAA 14 TOVS (TIROS Operational Vertical Sounder) sounding data to produce accurate twice daily per satellite global fields of atmospheric temperature-moisture profile, surface skin temperature, cloud and precipitation parameters, and outgoing longwave radiation. If found necessary by the government, older TOVS data may need to be re-analyzed possibly using an improved method. This includes re-analysis of the time period January 2000 – September 2002, in which the original data processing was effected by a Y2K problem. Reprocessing of time periods beyond September 2002 may be necessary if the new products are not compatible with the old ones.

1.1.2 Steps Involved in Processing the TOVS Data

a. Staging the Level Ib input of TOVS data.
b. Running of the model/analysis/retrieval interactive system.
c. Identify, flagging, and correcting both machine dependent problems and data dependent problems.
d. Monitoring the ability of the products to meet the threshold scientific requirements.
e. Ensuring that the level I, II, and III data is stored correctly in a mass storage device.
f. Gridding and time averaging of the retrieval products into twice daily, pentad, monthly, and annual segments.
g. Providing data and documentation to external users.
h. Ensuring that validation data sets of similar products are available for comparison (e.g., CPC surface temperatures, rain gauges, CERES OLR, Spencer and Christy's MSU2R and MSU4 products, GPCP precipitation product, radiosondes, DMT reanalysis, NCEP reanalysis products, etc.).

1.1.3 Validation of Daily and Monthly Mean TOVS Pathfinder Products

1.1.3.1 Validation of Daily Products

The contractor shall examine output from the Statistical Bias Correction program which produces RMS error statistics for mean tropospheric temperatures and water vapor for a 2 day mean. Rapid changes in the RMS values indicate that there might be an input data dependent problem that needs to be examined, and could indicate an input data dependent problem. If validation statistics exceed thresholds, the contractor shall try to identify and correct the problem. Daily coverage of accepted retrievals will also be monitored. The Government shall be notified of the problem and of the corrective actions taken if the source of poor validation statistics or poor spatial coverage cannot be identified and accounted for.

Task 06-613-01 SUPPORT FOR THE SOUNDER RESEARCH TEAM

Deliverable

Bi-monthly reports of the status of the processing of the TOVS Pathfinder products. The government shall be notified within 1 week if a problem occurs, and plans be given to correct it.

1.1.3.2 Validation of Monthly Mean Parameters

Monthly mean fields of retrieved geophysical parameters, as well as their differences from the appropriate climatologies, shall be compared to those derived from validation sources to assess consistency of the TOVS Pathfinder climate data record with those derived from other sources.

Deliverable

Monthly mean fields of retrieved geophysical parameters shall be validated within 2 weeks of completion of the analysis of the month's satellite data. Results shall be summarized in a bi-monthly report. If a problem is found, the government shall be notified within 1 week.

1.1.4 Generation of Graphics

Graphics with regard to validation studies shall be provided for publications, presentations, posters, and distribution. There are typically on the order of 6 such presentations of papers a year.

1.2 Generation of Global Precipitation Estimates for Inclusion in the GPCP Precipitation Data Set

1.2.1 Objective

A precipitation estimate product derived from atmospheric sounders shall be delivered to government staff in the Laboratory for Atmospheres for inclusion into the GPCP (Global Precipitation Climatology Project) 2 data set. Historically, the GPCP data set has used the precipitation estimate product derived from the TOVS Pathfinder Path A data set. An analogous product is now being generated by the Goddard DAAC based on AIRS/AMSU sounding data. The AIRS precipitation product and the TOVS precipitation product must have similar characteristics to preserve the continuity of the GPCP data set. The contractor shall conduct studies to show the consistency of the TOVS and AIRS derived precipitation estimates. If this is not found to be true, modifications to the methodology used to generate the AIRS/AMSU precipitation estimate will have to be made.

1.2.2 Deliverables

Daily precipitation data shall be acquired from the DAAC to ensure all time periods have been processed. The contractor shall generate a monthly mean field in an analogous method to those generated by the TOVS Path A processing system. The contractor shall archive all AIRS precipitation products. Daily and monthly mean precipitation fields derived from reanalysis of NOAA 14 and/or AIRS/AMSU data shall be delivered to government staff in the Laboratory for Atmospheres within 1 week of completion of the appropriate monthly mean products. Intercomparison of monthly mean AIRS and TOVS precipitation products, for time periods in common, shall be done within three months of data availability.

1.3 Continued Upgrade and Assessment of the AIRS Science Team Level 2 Retrieval Algorithm

1.3.1 Objective

The AIRS Science Team develops the operational algorithms used by the Goddard DAAC to process data received from the AIRS/AMSU instruments that were launched on the EOS Aqua platform in May of 2002. This algorithm is periodically updated and tested at SRT. Algorithms are then installed at JPL for science and robustness testing and delivery to DAAC. The contractor shall continue to conduct experiments together with government personnel to improve and validate the AIRS/AMSU Level 2 retrieval algorithm.

1.3.2 Requirements

The contractor shall develop, test, incorporate, and document AIRS algorithm software. Software modules will be tested at GSFC and delivered to JPL for testing 2 months before eventual delivery to the Goddard DAAC. New versions of the operational algorithms are validated and delivered to the Goddard DAAC about once per year. Intermediate results are presented at the AIRS Science Team every 4 months.

1.3.2.1 Scientific Development

Additional development work shall include improving coefficient and methodology used in the retrieval algorithm and its internal quality flags; optimization of the cloud clearing and cloud retrieval algorithms; optimization of code to compute an estimate of uncertainties for all products; and development and optimization of code to determine trace constituent concentrations and surface spectral emissivity. These upgrades will be developed within the SRT system, and then incorporated into the science team algorithm at JPL for eventual delivery to the Goddard DAAC. The contractor shall acquire all AIRS level 1-B, ECMWF and AVN products to be able to run experiments. All retrieved products will be archived to tape until the experiments are no longer needed, as determined by the government. On line disk storage space

shall be managed, moving data into and out of the tape storage system, to be able to run experiments within the confines of the SRT computer resources.

1.3.2.2 Validation of Products

The contractor shall examine all experiments produced at GSFC. Typical graphical validation products will include temperature and water profile error plots. Selected plots, such as spatial coverage plots, binned percent accepted SST plots, and binned temperature and water errors as a function of cloud fraction, will be produced at the request of the government.

The contractor shall demonstrate that scientifically equivalent results are being produced at GSFC and JPL. The contractor shall also validate AIRS retrieval products produced at the Goddard DAAC in an analogous way to that done with the Pathfinder Path A data. Particularly important is the degree to which TOVS and AIRS monthly mean products are compatible for the overlap time period. Compatibility is required so that the TOVS climate record can be extended by AIRS products. If artifacts appear, aspects of the AIRS/AMSU retrieval algorithm and/or quality control will be re-evaluated and modified in collaboration with government personnel. Comparisons for selected time periods shall be done within three months of the availability of the TOVS and AIRS monthly mean products for time periods in common. Results of these validation studies shall be contained in a bi-monthly report. Indications of a potential problem shall be reported to the government within 1 week.

1.3.2.3 Generation of Graphics

Graphics with regard to validation studies of AIRS products shall be provided for publications, presentations, posters, and distribution. There are typically on the order of 6 such presentations of papers a year. This may include development of new graphical capabilities for presentations as needed.

Data distribution – The contractor shall provide to the DMT retrieved AIRS products as needed for data assimilation experiments. Included will be a description and code for the latest quality control methodology for proper use in the data assimilation experiments.

1.4 Simulation Studies in Support of CrIS and HES

1.4.1 Objective

This requirement supports research the SRT conducts with regard to both the NPP project and IPO in the development of CrIS high spectral resolution IR sounder to fly on NPP and NPOESS, and to the GOES R project in the design of the HES, a High Spectral Resolution IR Geostationary Sounder.

1.4.2 Support of NPP and IPO

The contractor shall conduct studies assessing the accuracy of radiative transfer and retrieval algorithms developed by AER for operational analysis of CrIS data on NPP and NPOESS. The AER physics package shall be installed into the Government retrieval package and results of simulation studies using the two algorithms compared to each other. The contractor shall also implement and test the AER retrieval package on a proxy global data set and compare the results to those using the Government algorithm with the AER physics and with the Government physics. The contractor shall generate global proxy CrIS data from observed AIRS data to produce the best simulation of CrIS observations. Both the AER retrieval algorithm and the government retrieval algorithm shall be tested on these data sets.

One month of validated improved AIRS retrievals will be given to the DMT for use in forecast impact experiments with AIRS data. AIRS radiances for this month will also be used to generate proxy CrIS radiances for the month. The contractor shall generate the proxy radiance CrIS data, produce 1 month's worth of CrIS soundings, and deliver them to DMT personnel for use in a forecast impact test assessing the ability of CrIS radiances to improve forecast skill.

1.4.3 Support for GOES-R

The contractor shall conduct research, together with government personnel, using observed AIRS/AMSU data to address issues regarding spectral coverage, spectral resolution, and signal to noise requirements for the HES instrument as well as the need, of lack there of, for a geostationary microwave sounder to accompany HES. Results shall be reported in a bi-monthly report, and as requested by government personnel for presentation in meetings as needed.

1.5 Technical Support for SRT

The contractor shall provide technical support to the SRT in the following areas:

- Technical document preparation for scientific papers, abstracts/proposals, presentations, and lab brochures (approximately 10-15 per year).
- Travel documentation support (approximately 13 trips per year).
- Support for purchase requests for SRT hardware, software, supplies, and maintenance (approximately 12-15 per year).
- Maintenance of ADP and supply databases (3 separate databases per year).
- Record-keeping for SRT, including: active grants, RTOPs, property, phone lists, facilities requirements, and correspondence/travel.

WORK TO BE PERFORMNED FOR THE PERIOD OF 2/1/2006 through 1/31/2007

PERFORMANCE REQUIREMENTS:

Task 06-613-01 SUPPORT FOR THE SOUNDER RESEARCH TEAM

TECHNICAL:

Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:

Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:

Minimum: Cost overruns are no more than 5% of the estimate cost.
Target: Meets target cost, target technical and target schedule performance standards described above.
Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

TRAVEL: TBD

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.		JOB ORDER NUMBER	APPROP. FY
SAIC	TASK NO.	AMENDMENT		
	NNG06HX03C	06-613-02		

TASK TITLE: (NTE 80 characters; include project name) Sounder Reseach Team and Data Impact Modeling Team

Systems Administration Support to SRT and DMT

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Dr. Joel Susskind	2/1/2006	613	613.5	301-286-7210
BRANCH HEAD and/or DEPARTMENT HEAD Dr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres	2/1/2006	CODE 613		PHONE 301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Dr. Joel Susskind, Senior Scientist	2/1/2006	CODE 613		PHONE 301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement.	[X] NO	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] NO	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[x] NO	[ ] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)	
Onsite Performance:	[ ] NO	[X] YES -- SEE STATEMENT OF WORK	
Surveillance Plan Attached:	[X] NO	[ ] YES	
Performance Spec Attached:	[X] NO	[ ] YES	
Highlighted Contract Clauses:	*(to be completed by Contracting Officer)*		

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$44,497.33	$3,426.29	$47,923.62

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

SIGNATURE OF CONTRACTING OFFICER	DATE	TYPED NAME OF CONTRACTING OFFICER
	1/31/06	Michele Rook Contracting Officer

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE	DATE
	1/30/06

GSFC FORM 703-1845 12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-613-02	

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE:

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):

J. Susskind, Building 22 Room 140

TASK 06-613-02 COMPUTER SYSTEM AND USER ADMINISTRATION SUPPORT FOR SRT/DMT

WORK TO BE PERFORMED FOR THE PERFORMANCE PERIOD OF 2/1/2006 THROUGH 1/31/2007

3.1 Objective

The purpose of this task is to provide computer systems and user administration support to the Sounder Research Team and the Data Impact and Modeling Team.

3.1.1 Specific Subtasks

a. The contractor shall support local hardware and software maintenance activities, and coordinate access to tape library. Hardware maintenance shall consist of the following: installation, basic repairs, and coordination of vendor supplied maintenance. Software maintenance shall consist of the following: operating system upgrades, installation of 3rd party public domain and proprietary software, and providing assistance with use of installed software. The hardware currently consists of two SGI, one SUN and seven Linux servers, a Tape jukebox / backup server that backs up about 20TB of disk storage, twenty-one Linux /Windows workstations and network printers.

b. The contractor shall work to proactively address security issues and work to continuously transition GSFC Laboratory for Atmospheres within the Sun-Earth Exploration Division to a more secure computing environment. Where there are known system vulnerabilities and violations, the contractor shall upgrade or patch approximately fifty systems on a periodic basis or as the patches become available from the vendors. A script shall be maintained that downloads any patches made available by the vendor. The contractor shall review security procedures and update them based on changes to center processes and also contacts.

c. The contractor shall provide user support Monday through Friday, excluding all federal holidays. Inquiries/problems shall be categorized based on priority and handled accordingly. The contractor shall present information on installation or removal of hardware / software, new security policies and system updates to the user community via email.

d. The contractor shall lead the effort in continuously improving account creation and deletion procedures. All foreign nationals need appropriate paperwork before obtaining an account. The contractor shall insure that all foreign national paperwork is submitted when necessary and cleared by GSFC security and department head before giving access to system accounts. This occurs approximately three times per year. The contractor shall provide automated process for checking for idle accounts once a month. The contractor shall submit the list of idle accounts for approval to be disabled to ensure the accounts are up to date and idle accounts are deleted in a timely fashion.

e. The contractor shall provide general system monitoring, backup support and network support. The contractor shall monitor systems for disk use, network traffic and CPU usage of about fifty systems. The contractor shall define a process for performing system backups on a daily basis and recovery of archived data as needed. The contractor shall provide networking support for the following activities: requesting/deleting IP addresses, and investigating network outages and problems.

f. The contractor shall provide support for the hardware procurement activity by researching available solutions and obtaining vendor quotes for about three systems per month.

g. The contractor shall assist in maintaining and supporting property tracking by maintaining a current database of Code 910 equipment. The contractor shall support the Code 910 property administrator on a periodic basis.

h. The contractor shall support high-end computing needs. This support shall include providing a liaison between the local computing environment and the HPC computing environments located at NCCS, NASA Ames (NAS) and The Jet propulsion Lab (JPL).

DELIVERABLES

The following shall be performed and documented on a monthly basis: Description of upgrades to security patches; updates to systems to bring hardware up to most recent OS levels; setting up of hardware and servers for mail, web, and computing; complete incident reports; recommendations for procurement of hardware and software; updating of maintenance contracts for current hardware; user services questions and problems (printer, desktop applications, and hardware, server applications); and a catalog of software backups and tape library for backup tape archival system

PERFORMANCE REQUIREMENTS:

TECHNICAL:

Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:

Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:

Minimum: Cost overruns are no more than 5% of the estimate cost.
Target: Meets target cost, target technical and target schedule performance standards described above.
Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

Travel/training Authorized: $3,500

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
SAIC	TASK NO. AMENDMENT NNG06HX03C 06-613-03		

TASK TITLE: (NTE 80 characters; include project name) Sounder Reseach Team and Data Impact Modeling Team

Observing System Experiement (OSE) and Observing System Sumulation Experiment (OSSE) Support

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Dr. Joel Susskind	2/1/2006	613	613.5	301-286-7210
BRANCH HEAD and/or DEPARTMENT HEAD Mr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres	DATE 2/1/2006	CODE 613		PHONE 301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Dr. Joel Susskind, Senior Scientist	DATE 2/1/2006	CODE 613		PHONE 301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement.	[X] NO	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] NO	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[x] NO	[ ] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)	
Onsite Performance:	[ ] NO	[X] YES -- SEE STATEMENT OF WORK	
Surveillance Plan Attached:	[X] NO	[ ] YES	
Performance Spec Attached:	[X] NO	[ ] YES	
Highlighted Contract Clauses:	*(to be completed by Contracting Officer)*		

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$234,922.62	$18,089.04	$253,011.66

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

SIGNATURE OF CONTRACTING OFFICER	DATE	TYPED NAME OF CONTRACTING OFFICER
	1/31/06	Michele Rook Contracting Officer

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE	DATE
	1/31/06

GSFC FORM 703-1845 12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-613-03	

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE:

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION

Joel Susskind, Code 613 Building 22 Room 140

Task 06-613-03: OBSERVING SYSTEM EXPERIMENTS (OSE and OSSE)

PERIOD OF PERFORMANCE: 2/1/2006 through 1/31/2007

Task 613-03a. Observing System Experiments (OSE's)

- Set up, execute and assist in the evaluation of data impact assimilation runs to assess the impact of and potential interaction among different sources of satellite data in a number of DAS contexts, including GEOS-4, fvSSI, GEOS-5. For FY06, the contractor shall perform the following OSE's:

    - data assimilation experiments to evaluate the various AIRS products including a) physical retrievals, b) 1D variational retrievals, c) AIRS radiances.

    - compare impact of newer versions of the AIRS team AIRS products on analyses and forecasts.

    - perform impact experiments to investigate possible influence of a dust storm on the hurricane suppression in the Eastern Atlantic off the African Coast in July 2005. AIRS physical retrievals will be used over the African continent to provide additional observational data.

    - impact of using wind vector observations vs single wind component data will be studied in the context of using GEOS-4. The study will provide useful information for future Lidar wind instrument design

Deliverables: DAS run datasets and evaluation diagnostics for each experiment. The evaluation diagnostics include: subjective evaluations, objective measures (e.g. forecast skill), and case study descriptions.

Task 613-03b: Observing System Simulation Experiments (OSSE's)

- Set up and evaluate a new nature run to determine both its realism and characteristics. This will include documentation of the climate of the nature run, the frequency, intensity and movement of cyclones, and the evolution of major circulation patterns.

    Deliverables: Week by week summary of the nature run evaluation results in HTML and text format. Generate multimedia visualizations on CD and web. Provide documentation and recommendations to nature run modelers and users of the nature run within the OSSE community.

- Perform an OSSE to evaluate the potential impact of adding two remote airborne sensors, proposed by the Boeing Company, to the current observing network. Generate simulated observations, execute assimilations and forecasts and evaluate results.

Deliverables: Written and oral presentation to Boeing managers of the design, methodology, and results of the OSSE.

- Perform GLA-based OSSE's for evaluating the potential impact of various lidar configurations. These include the following sets of experiments for which a complete set of analyses and forecasts will be produced:

- Generate an array of real and simulated line-of-sight wind products. Evaluate these products in the FVSSI and GEOS-4 systems. Generate statistics and other diagnostics from the assimilations and forecasts. Compare real and simulated results.
- Perform tropical cyclone adaptive targeting experiments in cooperation with Simpson Weather Associates to assess forecast impact of a lidar with more efficient power usage. Statistically compare tropical cyclone tracks between experiments for all nature run cyclones targeted.
- Perform a lidar quick osse in cooperation with Simpson Weather Associates to simultaneously examine analysis, model and a possible future lidar instrument for potential improvement in hurricane forecasting.

Deliverables: Forecast statistics, and synoptic examples when applicable, showing the impact of observations from different lidar configurations. A catalog of information associated with each tropical cyclone in the nature run.

Provide software/algorithm documents and user guides in conformance with GLA guidelines as appropriate.

PERFORMANCE REQUIREMENTS:

TECHNICAL:
Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:
Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:
Minimum: Cost overruns are no more than 5% of the estimate cost.
Target: Meets target cost, target technical and target schedule performance standards described above.
Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-610-04	**Rev 1**

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE: NTE: $5,816

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION

Mike Seablom, Code 610 Building 28 Room W135A

Task 06-610-4-rev1

Description of the work to be performed for the period of 2/1/06 through 1/31/07

Task 4: Ocean Surface Wind Assimilation

Task 4a. Offline VAM development

- Maintain and develop software for assimilating ocean surface wind data sets using the Variational Analysis Method (VAM). The focus of this effort is to ensure the successful delivery of ocean surface wind products described in Task 06-9103-11b. Deliverables include:

  i) *software/algorithms, documentation maintained under CVS or comparable version control system.*

Task 4b. Ocean Surface Wind Production Processing and Distribution

- This task addresses the requirements under the NASA REASoN CAN, A Cross-Calibrated, Multi-Platform Ocean Surface Wind Velocity Product for Meteorological and Oceanographic Applications. The contractor shall use the VAM to assimilate cross-calibrated data sets from Remote Sensing Systems at a spatial resolution of 50km or finer. These data sets will include, but not be limited to, SSM/I, TRMM TMI, AMSR-E, Quikscat and Seawinds. Ocean surface wind data sets will be assimilated using the ECMWF ERA-40 Reanalysis (1987-2002) and the ECMWF operational analysis (2003-2007) as background analyses for the VAM. These products will cover the years 1987 to 2007 but may be limited by the availability of ECMWF analyses. Deliverables for FY06 are as follows:

  i) *VAM 6-hourly analyses (1998-2005)*
  ii) *SSM/I, AMSRE, TRMM TMI wind speeds with VAM assigned wind directions*
  iii) *Monthly and 5-day means*
  iv) *Metrics to assess the analysis fit to observations*
  v) *Seasonal and interannual comparisons of ocean surface wind climatologies*
  vi) *Documentation and software for reading data sets*
  vii) *Oral and written reports documenting findings*

  All products are to be delivered to the JPL PODAAC for distribution. Data usage metrics are to be collected from the DAAC and delivered to the Metrics Working Group as required under the REASoN CAN.

Task 4c. Geophysical Validation

- Perform geophysical validation of ocean surface wind data sets as they become available. Data sets may include new data types or versions of the data as retrieval algorithms are optimized. Deliverables include:

  i) Data impact experiments using multiple DAS systems including one-degree (or finer) versions of GEOS4, GEOS5, fv-DAS, fvSSI, NCEP GDAS and NCEP EDAS.
  ii) Regional data impact experiments using the WRF DAS and model. Both GFS and GEOS5 global models will be used to provide boundary and initial conditions for WRF forecasts.
  iii) Collocation statistics versus ships, buoys and other ocean surface wind data sets
  iv) Text and graphics documenting features in the data and the impact on forecasts and analyses.
  v) Forecast skill statistics

Task 4d. Support to the Software Integration and Visualization Office (SIVO)

- Assist SIVO personnel with the integration of the Goddard Earth Observing System (GEOS) fourth and/or fifth generation model with the Weather and Research Forecast (WRF) regional scale model. This integration will support customers in GSFC Code 613.1 and MSFC Code XD11.

PERFORMANCE REQUIREMENTS:

TECHNICAL:
Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:
Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:
Minimum: Cost overruns are no more than 5% of the estimate cost.

Target: Meets target cost, target technical and target schedule performance standards described above.

Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
SAIC	TASK NO. AMENDMENT NNG06HX03C 06-610-04		

TASK TITLE: (NTE 80 characters; include project name) **Sounder Reseach Team and Data Impact Modeling Team**

Ocean Surface Wind Assimilation Support (REASON CAN)

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Dr. Mike Seablom	2/1/2006	610	610.3	301-286-8580
BRANCH HEAD and/or DEPARTMENT HEAD Mr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres	2/1/2006	CODE 613		PHONE 301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Dr. Joel Susskind, Senior Scientist	2/1/2006	CODE 613		PHONE 301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement.	[X] NO	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] NO	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[x] NO	[ ] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)	
Onsite Performance:	[ ] NO	[X] YES -- SEE STATEMENT OF WORK	
Surveillance Plan Attached:	[X] NO	[ ] YES	
Performance Spec Attached:	[X] NO	[ ] YES	
Highlighted Contract Clauses:	*(to be completed by Contracting Officer)*		

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$229,934.21	$17,704.93	$247,639.14

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

SIGNATURE OF CONTRACTING OFFICER	DATE	TYPED NAME OF CONTRACTING OFFICER
Michele Rook	1/31/06	Michele Rook Contracting Officer

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE	DATE
James D. Mark	1/31/06

GSFC FORM 703-1845 12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-610-04	

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE:

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION

Mike Seablom, Code 610 Building 28 Room W135A

Task 06-610-4

Description of the work to be performed for the period of 2/1/06 through 1/31/07

Task 4: Ocean Surface Wind Assimilation

Task 4a. Offline VAM development

- Maintain and develop software for assimilating ocean surface wind data sets using the Variational Analysis Method (VAM). The focus of this effort is to ensure the successful delivery of ocean surface wind products described in Task 06-9103-11b. Deliverables include:

  i) *software/algorithms, documentation maintained under CVS or comparable version control system.*

Task 4b. Ocean Surface Wind Production Processing and Distribution

- This task addresses the requirements under the NASA REASoN CAN, A Cross-Calibrated, Multi-Platform Ocean Surface Wind Velocity Product for Meteorological and Oceanographic Applications. The contractor shall use the VAM to assimilate cross-calibrated data sets from Remote Sensing Systems at a spatial resolution of 50km or finer. These data sets will include, but not be limited to, SSM/I, TRMM TMI, AMSR-E, Quikscat and Seawinds. Ocean surface wind data sets will be assimilated using the ECMWF ERA-40 Reanalysis (1987-2002) and the ECMWF operational analysis (2003-2007) as background analyses for the VAM. These products will cover the years 1987 to 2007 but may be limited by the availability of ECMWF analyses. Deliverables for FY06 are as follows:

  i) *VAM 6-hourly analyses (1998-2005)*
  ii) *SSM/I, AMSRE, TRMM TMI wind speeds with VAM assigned wind directions*
  iii) *Monthly and 5-day means*
  iv) *Metrics to assess the analysis fit to observations*
  v) *Seasonal and interannual comparisons of ocean surface wind climatologies*
  vi) *Documentation and software for reading data sets*
  vii) *Oral and written reports documenting findings*

  All products are to be delivered to the JPL PODAAC for distribution. Data usage metrics are to be collected from the DAAC and delivered to the Metrics Working Group as required under the REASoN CAN.

Task 4c. Geophysical Validation

- Perform geophysical validation of ocean surface wind data sets as they become available. Data sets may include new data types or versions of the data as retrieval algorithms are optimized. Deliverables include:

  i) Data impact experiments using multiple DAS systems including one-degree (or finer) versions of GEOS4, GEOS5, fv-DAS, fvSSI, NCEP GDAS and NCEP EDAS.
  ii) Collocation statistics versus ships, buoys and other ocean surface wind data sets
  iii) Text and graphics documenting features in the data and the impact on forecasts and analyses.
  iv) Forecast skill statistics

PERFORMANCE REQUIREMENTS:

TECHNICAL:
Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:
Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:
Minimum: Cost overruns are no more than 5% of the estimate cost.
Target: Meets target cost, target technical and target schedule performance standards described above.
Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.		JOB ORDER NUMBER	APPROP. FY
SAIC	TASK NO.	AMENDMENT		
	NNG06HX03C 06-614-05	Rev 1		

TASK TITLE: (NTE 80 characters; include project name) Sounder Reseach Team and Data Impact Modeling Team

Support to the Hydrological Sciences Branch

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Dr. David Toll		614	614.3	301-614-5801
BRANCH HEAD and/or DEPARTMENT HEAD Mr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres	11/20/06	CODE 613		PHONE 301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Dr. Joel Susskind, Senior Scientist	11/13/06	CODE 613		PHONE 301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE *(IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)*	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement.	[X] NO	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] NO	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[x] NO	[ ] YES -- SEE LIST OF GFP (offsite only) / Shared Prop/FACILITIES (onsite only)	
Onsite Performance:	[ ] NO	[X] YES -- SEE STATEMENT OF WORK	
Surveillance Plan Attached:	[X] NO	[ ] YES	
Performance Spec Attached:	[X] NO	[ ] YES	
Highlighted Contract Clauses:	*(to be completed by Contracting Officer)*		

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$545,710.29	$42,019.69	$587,729.99

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

Sharon Colligmon — SIGNATURE OF CONTRACTING OFFICER

11/26/06 — DATE

SHARON M. COLLIGNON, CONTRACTING OFFICER — TYPED NAME OF CONTRACTING OFFICER

CONTRACTOR'S ACCEPTANCE:

[signature] — AUTHORIZED SIGNATURE

11-16-06 — DATE

GSFC FORM 703-1845 12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-614-05	**Rev 1**

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE: NTE $21,259

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION

Dave Toll, Code 614 Building 33 Room ~~D306~~ A310 Mailstop 614.3

Task 06-614-05-rev1: Support to the Hydrological Sciences Branch
ATR: David Toll, Code 614.3

Period of performance: February 1, 2006 – January 31, 2007

Any WWW development in this task should comply with Section 1194.22 (Web-based Intranet and Internet Information and Applications) of the EIT Accessibility Standards

Task 5a. Land Data Assimilation Systems (LDAS)

- Develop the framework for testing land models and land data assimilation offline at continental to global scales, specifically the Mosaic LSM and the Common Land Model.
- Perform work to evaluate LDAS for initializing NOAA NCEP weather forecast models.
- Develop observational forcing data for the offline land models (precipitation, snow and land characterization parameters)
- Maintain and develop an internet distribution site for the offline land model data, parameters, and forcing data
- Provide software/algorithm documents and user guides in conformance with DAO guidelines as appropriate.

Task 5b. Computing and systems support for LDAS and related computing platforms

- Provide Linux support, including the installation, upgrade, and maintenance, of the operating system and system utility software.
- Install and configure peripheral hardware such as disk drives, tape backup systems, and printers.
- Maintain computer security for LDAS and related platforms
- Establish and implement procedures for data backup and archiving.
- Evaluate new hardware and software for the purpose of making recommendations on future LDAS computing strategies.
- Provide server support for email and web page services.

Task 5c. Water Management Consulting and Web Site

a. The contractor shall provide consulting services to include the following:
- Help coordinate the implementation of NASA products in to federal agency decision support tools for water management applications.
- Support NASA water management activities with an emphasis on international issues and with the USDA

b. The contractor shall create a website for the Water Management Program. The website will be directed primarily at scientific colleagues, with a secondary goal to educate the general

public about NASA's role in water management. The website will provide information about the operation of the Water Management Program, and the status of projects funded by the Water Management Program. The website will archive mandatory report filings, meetings schedules, and copies of presentations. The contractor shall write other documentation about the Water Management Program as needed. Specific contents of the web page will include:

- Water Management Program top web page
- Web sub-pages for aspects of the Water Management Program
- Regularly updated report filings:

Task 5d. Microwave Satellite Observation Support

The contractor shall support the analysis and use of microwave satellite observations in meteorological forecasting. Programs are needed to derive monthly global ocean rain rates from SSM/I and TMI satellite data; to derive snow products from SSM/I and AMSR data; and to update MODIS programs for global snow cover and sea ice.

In addition, with a focus on glacier studies in national parks in Alaska, the contractor shall:

- Measure glaciers in Kenai Fjords and Katmai National Parks using Landsat images from different years with image processing and GIS techniques.
- Perform image-processing to support the MODIS snow and ice project.
- Perform additional image processing or programming support as needed.

Task 5e. Management and Engineering Document Support

The contractor shall provide Project Management, Software Engineering Document Support and IT Support for research areas within the GSFC Land Information System (LIS) project (http://lis.gsfc.nasa.gov). Specific tasks may include any of the following, as needed by the Project Scientist:

- Maintenance of Microsoft Project schedules and provision of up-to-date Gantt charts as needed; e.g., for quarterly reports, interim reviews and annual reports;
- Review of IT resources and recommendations for additions/upgrades, particularly in the areas of collaborative workflow and data and document management.
- Development and review of software engineering documents, including Software Engineering Plans, User Manuals, Developers' Guides, and Test Plans;
- Review of project budgets, and delivery of monthly budget status reports;
- Designing and drafting Evaluation, Verificiation and Validation and Benchmarking reports as required by NASA HQ;
- Publication of the documents to websites/repositories for each project; and
- Other project-related duties as needed.

Task 5f. Land Information System (LIS) Development and Support

The contractor shall contribute to the development of radiative transfer modules for operation in the Land Information System (LIS). The NASA-GSFC LIS is a flexible, modular framework that incorporates multiple land surface models and related tools in a parallelized, high-performance computing environment for interaction and coupling with atmospheric modeling systems (e.g. MM5, WRF). A major focus of current work includes the development of data assimilation algorithms for specific state variables in, and remote observations of, the land-atmosphere system, and will be followed by generalization of those methods to other, user-selected system variables. The goal for this year is to begin developing techniques and models for the interpretation, assimilation and validation of satellite radiance datasets for surface and atmospheric observations from various NASA, NOAA, Department of Defense and international partner missions.

In addition to adding the above significant technical capabilities to LIS, the contractor shall, in cooperation with personnel at the Joint Center for Satellite Data Assimilation (JCSDA), and using the JCSDA Test Bed computer at NCEP, begin to develop the ability to couple LIS through the ESMF to the NCEP GFS/GDAS.

TASK DOCUMENTATION REQUIREMENTS/DELIVERABLE ITEMS:

Task 5a. WWW distribution of LDAS data and forecasts
Task 5b. System upgrades, hardware/software installations, web site updates, and the setup and execution of microwave data experiments as requested by the ATR.
Task 5c. Periodic evaluations, technical reviews, project planning reports, postings on the web site as required.
Task 5d. Images and software as needed by the project scientist.
Task 5e. Budget and manpower reports, documentation, and project plans as needed by the project scientist or NASA HQ.
All subtasks: Monthly status reports

PERFORMANCE REQUIREMENTS:

TECHNICAL:

Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:

Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:

Minimum: Cost overruns are no more than 5% of the estimate cost.
Target: Meets target cost, target technical and target schedule performance standards described above.
Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

TRAVEL: NTE ~$7,000.00

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
SAIC	TASK NO. AMENDMENT		
	NNG06HX03C 06-614-05		

TASK TITLE: (NTE 80 characters; include project name) **Sounder Reseach Team and Data Impact Modeling Team**

Support to the Hydrological Sciences Branch

APPROVALS: (Type or print name and sign)

	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR)				
Dr. David Toll	2/1/2006	614	614.3	301-614-5801
BRANCH HEAD and/or DEPARTMENT HEAD	**DATE**	**CODE**		**PHONE**
Mr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres	2/1/2006	613		301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)	**DATE**	**CODE**		**PHONE**
Dr. Joel Susskind, Senior Scientist	2/1/2006	613		301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement.	[X] NO	[ ] YES	
Flight hardware will be shipped to GSFC for testing prior to final delivery.	[X] NO	[ ] YES	[ ] N/A
Government Furnished Property/Facilities:	[x] NO	[ ] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)	
Onsite Performance:	[ ] NO	[X] YES -- SEE STATEMENT OF WORK	
Surveillance Plan Attached:	[X] NO	[ ] YES	
Performance Spec Attached:	[X] NO	[ ] YES	
Highlighted Contract Clauses:	*(to be completed by Contracting Officer)*		

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$583,757.22	$44,949.31	$628,706.53

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

SIGNATURE OF CONTRACTING OFFICER	DATE	TYPED NAME OF CONTRACTING OFFICER
	1/31/06	Michele Rook Contracting Officer

CONTRACTOR'S ACCEPTANCE:

AUTHORIZED SIGNATURE	DATE
	1/31/06

GSFC FORM 703-1845 12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-614-05	

STATEMENT OF WORK:

See Attached

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE:

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION

Dave Toll, Code 614 Building 33 Room B306 Mailstop 614.3

Task 06-614-05: Support to the Hydrological Sciences Branch
ATR: David Toll, Code 614.3

Period of performance: February 1, 2006 – January 31, 2007

Any WWW development in this task should comply with Section 1194.22 (Web-based Intranet and Internet Information and Applications) of the EIT Accessibility Standards

Task 5a. Land Data Assimilation Systems (LDAS)

- Develop the framework for testing land models and land data assimilation offline at continental to global scales, specifically the Mosaic LSM and the Common Land Model.
- Perform work to evaluate LDAS for initializing NOAA NCEP weather forecast models.
- Develop observational forcing data for the offline land models (precipitation, snow and land characterization parameters)
- Maintain and develop an internet distribution site for the offline land model data, parameters, and forcing data
- Provide software/algorithm documents and user guides in conformance with DAO guidelines as appropriate.

Task 5b. Computing and systems support for LDAS and related computing platforms

- Provide Linux support, including the installation, upgrade, and maintenance, of the operating system and system utility software.
- Install and configure peripheral hardware such as disk drives, tape backup systems, and printers.
- Maintain computer security for LDAS and related platforms
- Establish and implement procedures for data backup and archiving.
- Evaluate new hardware and software for the porpose of making recommendations on future LDAS computing strategies.
- Provide server support for email and web page services.

Task 5c. Water Management Consulting

- Help coordinate the implementation of NASA products in to federal agency decision support tools for water management applications.
- Support NASA water management activities with an emphasis on international issues and with the USDA

Task 5d. Microwave Satellite Observation Support

The contractor shall support the analysis and use of microwave satellite observations in meteorological forecasting. Programs are needed to derive monthly global ocean rain rates from SSM/I and TMI satellite data; to derive snow products from SSM/I and AMSR data; and to update MODIS programs for global snow cover and sea ice.

In addition, with a focus on glacier studies in national parks in Alaska, the contractor shall:

- Measure glaciers in Kenai Fjords and Katmai National Parks using Landsat images from different years with image processing and GIS techniques.
- Perform image-processing to support the MODIS snow and ice project.
- Perform additional image processing or programming support as needed.

Task 5e. Management and Engineering Document Support

The contractor shall provide Project Management, Software Engineering Document Support and IT Support for research areas within the GSFC Land Information System (LIS) project (http://lis.gsfc.nasa.gov). Specific tasks may include any of the following, as needed by the Project Scientist:

- Maintenance of Microsoft Project schedules and provision of up-to-date Gantt charts as needed; e.g., for quarterly reports, interim reviews and annual reports;
- Review of IT resources and recommendations for additions/upgrades, particularly in the areas of collaborative workflow and data and document management.
- Development and review of software engineering documents, including Software Engineering Plans, User Manuals, Developers' Guides, and Test Plans;
- Review of project budgets, and delivery of monthly budget status reports;
- Designing and drafting Evaluation, Verificiation and Validation and Benchmarking reports as required by NASA HQ;
- Publication of the documents to websites/repositories for each project; and
- Other project-related duties as needed.

TASK DOCUMENTATION REQUIREMENTS/DELIVERABLE ITEMS:

Task 5a. WWW distribution of LDAS data and forecasts
Task 5b. System upgrades, hardware/software installations, web site updates, and the setup and execution of microwave data experiments as requested by the ATR.
Task 5c. Periodic evaluations, technical reviews, project planning reports
Task 5d. Images and software as needed by the project scientist.
Task 5e. Budget and manpower reports, documentation, and project plans as needed by the project scientist or NASA HQ.
All subtasks: Monthly status reports

PERFORMANCE REQUIREMENTS:

TECHNICAL:

Minimum: 90% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Target: 95% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.
Maximum: 100% of deliverable items are completed technically correct, and reports are submitted in clear concise formats.

SCHEDULE:

Minimum: Meets technical target for deliverables within 1 week of expected completion 75% of the time.
Target: Meets technical target for deliverables within 3 days of expected completion 90% of the time.
Maximum: Meets technical target for deliverables within expected completion date 100% of the time.

COST:

Minimum: Cost overruns are no more than 5% of the estimate cost.
Target: Meets target cost, target technical and target schedule performance standards described above.
Maximum: Cost underruns are at least 5% of the estimated cost in meeting the target technical and target schedule performance standards described above.

TRAVEL: NTE ~$7,000.00

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.		AMENDMENT	JOB ORDER NUMBER	APPROP. FY
SAIC	NNG06HX03C	TASK NO. 06-613-06	Rev 1		

TASK TITLE: (NTE 80 characters; include project name) Sounder Reseach Team and Data Impact Modeling Team

Mesoscale Modeling Support

APPROVALS: (Type or print name and sign)	DATE	ORG CODE	MAIL CODE	PHONE
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR) Dr. Wei-Kuo Tao		613	613.1	301-614-6269
BRANCH HEAD and/or DEPARTMENT HEAD Dr. Charles E. Cote, Assoc Chief, Laboratory for Atmospheres		CODE 613		301-614-6367
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) Dr. Joel Susskind, Senior Scientist		CODE 613		301-286-7210

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE (IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
[X] NO [ ] YES	N/A	N/A

Contractor will develop specification or statement of work under this task for a future procurement. [X] NO [ ] YES

Flight hardware will be shipped to GSFC for testing prior to final delivery. [X] NO [ ] YES [ ] N/A

Government Furnished Property/Facilities: [x] NO [ ] YES – SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)

Onsite Performance: [ ] NO [X] YES – SEE STATEMENT OF WORK

Surveillance Plan Attached: [X] NO [ ] YES

Performance Spec Attached: [X] NO [ ] YES

Highlighted Contract Clauses: *(to be completed by Contracting Officer)*

The Contractor shall perform in accordance with the attached Statement of Work for this Task at the following CPAF amount:

ESTIMATED COST	AWARD FEE	TOTAL ESTIMATED COST & AWARD FEE
$176,706	$13,606	$190,312

Revision 1 reflects a decrese in the CPAF amount.

AUTHORIZED SIGNATURE:

THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"

[signature] SIGNATURE OF CONTRACTING OFFICER

9/15/06 DATE

Steven T. Kramer
Contracting Officer
TYPED NAME OF CONTRACTING OFFICER

[illegible]

[signature] AUTHORIZED SIGNATURE

9/12/2006 DATE

GSFC FORM 703-1945 12/98 (OLDER VERSIONS ARE OBSOLETE)

DISTRIBUTION: CONTRACTOR, CONTRACTING OFFICER, COTR, CODE 303, RESOURCES ANALYST, ASSISTANT TECHNICAL REPRESENTATIVE

TECHNICAL WORK MAY NOT BEGIN PRIOR TO C.O. APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR	CONTRACT NO./TASK NO.	TASK NO.	AMENDMENT
SAIC	NNG06HX03C	06-613-06	Rev 1

STATEMENT OF WORK:

See Attached (Statement of Work remains unchanged) Revision 1 results from a change in staffing only.

PERFORMANCE STANDARDS: See Attached

TRAVEL SCHEDULE: See SOW NTE: $6,267

APPLICABLE DOCUMENTS:

See Attached

GOVERNMENT FURNISHED FACILITIES:

The Government shall provide on-site facilities to house Full-Time Equivalent (FTE) contractor employees.

TASK PERIOD OF PERFORMANCE: February 1, 2006 through Janaury 31, 2007

MILESTONES/DELIVERABLES AND DATES: See SOW attached

FINAL DELIVERY DESTINATION

Dr. Wei-Kua Tao, Code 613 Building 33 Room A408